AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in this application.

1. (Previously Presented) A method for controlling bias of optical modulator for controlling a DC bias of each of a plurality of optical modulating sections of an optical modulator comprising an optical waveguide formed on a substrate with an electro-optic effect, and the plurality of optical modulating sections for modulating optical waves propagating through the optical waveguide, the optical modulator being configured so as to combine the optical waves modulated by the plurality of optical modulating sections, comprising the steps of:

superposing a low frequency electrical signal with a specific frequency on a modulating signal or a DC bias applied into each of the plurality of optical modulating sections;

detecting a change of light intensity corresponding to the low frequency electrical signal from the optical wave after being combined; and

controlling the DC bias of each optical modulating section based on the detected change of light intensity.

2. (Previously Presented) The method for controlling bias of optical modulator according to claim 1, wherein the specific frequency differs between each optical modulating section.

3. (Currently Amended) The method for controlling bias of optical modulator according to claim 2, wherein the different specific frequencies are made not to be an integral multiplication of each other.

4. (Previously Presented) The method for controlling bias of optical modulator according to claim 1, wherein the low frequency electrical signal is superposed at different times on each optical modulating section.

5. (Previously Presented) A method for controlling bias of optical modulator for controlling a DC bias of each of a plurality of optical modulating sections of an optical modulator comprising an optical waveguide formed on a substrate with an electro-optic effect, and the plurality of optical modulating sections for modulating optical waves propagating through the optical waveguide, the optical modulator being configured so as to combine the optical waves modulated by the plurality of optical modulating sections, comprising the steps of:

superposing a low frequency electrical signal with a specific frequency on a modulating signal or a DC bias applied into at least one of the plurality of optical modulating sections;

detecting a change of light intensity corresponding to the low frequency electrical signal from the optical wave exiting from the optical modulating section, into which the modulating signal or the DC bias superposed with the low frequency electrical signal is applied; and

controlling the DC biases of all or some of the plurality of optical modulating sections based on the detected change of light intensity.

6. (Previously Presented) The method for controlling bias of optical modulator according to claim 5, wherein the control of the DC biases of all or some of the plurality of

optical modulating sections is performed by determining a controlled variable with respect to each optical modulating section based on the change of light intensity.

7. (Currently Amended) A device for controlling bias of optical modulator for controlling a DC bias of each of a plurality of optical modulating sections of an optical modulator comprising a substrate with an electro-optic effect, an optical waveguide formed on the substrate, the plurality of optical modulating sections for modulating optical waves propagating through the optical waveguide, and a combining element provided for the optical waveguide for combining the optical waves modulated by the plurality of optical modulating sections, further comprising:

a DC bias application means for applying a DC bias into each of the plurality of optical modulating sections;

a low frequency electrical signal superposing circuit for superposing a low frequency electrical signal with a specific frequency on a modulating signal or a DC bias applied into each of the plurality of optical modulating sections;

an optical detecting means for detecting a change of light intensity of the optical wave passing through the combining element; and

a bias controlling means for extracting the change of light intensity corresponding to the low frequency electrical signal from the optical detecting means and ~~also~~ for controlling the DC bias application means based on the extracted change of light intensity.

8. (Previously Presented) The device for controlling bias of optical modulator according to claim 7, wherein the low frequency electrical signal superposing circuit comprises a plurality of low frequency electrical signal generation elements for generating the low frequency electrical signal respectively corresponding to the plurality of optical modulating sections.

9. (Previously Presented) The device for controlling bias of optical modulator according to claim 7, wherein the low frequency electrical signal superposing circuit comprises one low frequency electrical signal generation element for generating the low frequency electrical signal, and switches the low frequency electrical signal generated from the low frequency electrical signal generation element to supply the low frequency electrical signal to each optical modulating section.

10. (Currently Amended) A device for controlling bias of optical modulator for controlling a DC bias of each of a plurality of optical modulating sections of an optical modulator comprising a substrate with an electro-optic effect, an optical waveguide formed on the substrate, the plurality of optical modulating sections for modulating optical waves propagating through the optical waveguide, and a combining element provided for the optical waveguide for combining the optical waves modulated by the plurality of optical modulating sections, further comprising:

a DC bias application means for applying a DC bias into each of the plurality of optical modulating sections;

a low frequency electrical signal superposing circuit for superposing a low frequency electrical signal with a specific frequency on a modulating signal or a DC bias applied into at least one of the plurality of optical modulating sections;

an optical detecting means for detecting a change of light intensity corresponding to the low frequency electrical signal from the optical wave exiting from the optical modulating section, into which the modulating signal or the DC bias superposed with the low frequency electrical signal is applied; and

a bias controlling means for extracting the change of light intensity corresponding to the low frequency electrical signal from the optical detecting means and ~~also~~ for controlling

the DC bias application means of all or some of the plurality of optical modulating sections based on the extracted change of light intensity.

11. (Currently Amended) The device for controlling bias of optical modulator according to ~~any one of claims 7 to 10~~ claim 7, wherein the optical detecting means detects an optical wave emitted from the optical waveguide into the substrate.

12. (Currently Amended) The device for controlling bias of optical modulator according to ~~any one of claims 7 to 10~~ claim 7, wherein the optical detecting means detects an optical wave guided out by a directional coupler positioned adjacent to the optical waveguide.

13. (Currently Amended) The device for controlling bias of optical modulator according to ~~any one of claims 7 to 10~~ claim 7, wherein the optical detecting means detects an optical wave, which exits from the optical modulator and is thereafter branched by an optical branching means.

14. (Currently Amended) The device for controlling bias of optical modulator according to ~~any one of claims 11 to 13~~ claim 11, wherein the optical detecting means comprises at least two optical detectors ~~or more~~.

15. (New) The device for controlling bias of optical modulator according to claim 8, wherein the optical detecting means detects an optical wave emitted from the optical waveguide into the substrate.

16. (New) The device for controlling bias of optical modulator according to claim 9, wherein the optical detecting means detects an optical wave emitted from the optical waveguide into the substrate.

17. (New) The device for controlling bias of optical modulator according to claim 10, wherein the optical detecting means detects an optical wave emitted from the optical waveguide into the substrate.

18. (New) The device for controlling bias of optical modulator according to claim 8, wherein the optical detecting means detects an optical wave guided out by a directional coupler positioned adjacent to the optical waveguide.

19. (New) The device for controlling bias of optical modulator according to claim 9, wherein the optical detecting means detects an optical wave guided out by a directional coupler positioned adjacent to the optical waveguide.

20. (New) The device for controlling bias of optical modulator according to claim 10, wherein the optical detecting means detects an optical wave guided out by a directional coupler positioned adjacent to the optical waveguide.

21. (New) The device for controlling bias of optical modulator according to claim 8, wherein the optical detecting means detects an optical wave, which exits from the optical modulator and is thereafter branched by an optical branching means.

22. (New) The device for controlling bias of optical modulator according to claim 9, wherein the optical detecting means detects an optical wave, which exits from the optical modulator and is thereafter branched by an optical branching means.

23. (New) The device for controlling bias of optical modulator according to claim 10, wherein the optical detecting means detects an optical wave, which exits from the optical modulator and is thereafter branched by an optical branching means.

24. (New) The device for controlling bias of optical modulator according to claim 12, wherein the optical detecting means comprises at least two optical detectors.

25. (New) The device for controlling bias of optical modulator according to claim 13, wherein the optical detecting means comprises at least two optical detectors.